The Macdonald Journal

MARCH 1979

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The Macdonald Journal

MARCH 1979

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In This Issue

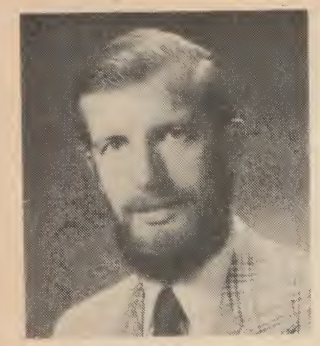
Journal Jottings

We are often so busy doing that we do not take the time to spend a few moments reflecting as to exactly where we've been and where we're heading. In this issue in two articles we take that time. Again this year A. Douglas Mutch of the Department of Agricultural Economics presents an outlook and review of Canadian agriculture with special emphasis on the Quebec situation. The second article takes another look at the economic scene, this time with the focus being on the benefits derived from the devaluation of the Canadian dollar.

In the Family Farm section we have basic advice for the novice gardener who, no doubt, will buy bedding plants from a nearby farmer's market or greenhouse. In the front of the magazine we have an article on the source of these plants "Bedding Plants: Those Blooming Flowers!" by Professor Calvin Chong of the Department of Plant Science. This is a fascinating look at this agricultural enterprise in which Quebec accounts for approximately 11 per cent of all ornamentals sold in Canada.

As well as general, informative articles on oilseeds, forages, or cereal crops, we occasionally like to single out one particular crop for special attention. Not too much has been written about oats in Quebec lately and, as Professor Klinck of the Department of Plant Science said when I questioned him recently, "Oats have been around a long time; they are not going to go away, and therefore we might as well work toward improving them." He is doing just that as you will learn by reading "Oats: An Adaptable Crop". In this interview Professor Klinck discusses the necessity of using good seed. This necessity is again brought to the farmer's attention in the Family Farm section.

Do, reflect and plan, and do again. We hope these articles will help you in the "doing."
Hazel M. Clarke



Editorial

Agricultural Information in Quebec

More English-speaking farmers are realising that a number of information sources are still available in English. These sources should be guarded and exploited with fervour. The shrinking farm population is a threat to the survival of these publications unless individual farmers take the initiative to express their concern about their survival. The Agricultural Newsletter from the Quebec Ministry of Agriculture is a prime example. Started jointly with the Extension Department of Macdonald College, it now definitely fills an information gap. The English page in La Terre de Chez Nous is another example where the farm union, UPA, is trying to communicate with its minority. These are not the only sources that publish agricultural information in English. The annual report of the Co-op Fédérée is available in English on demand. Many companies in the agri-business sector have information in English. Also, the local community newspapers are making an effort to report on issues that affect the rural population.

The Quebec Farmers' Association is concerned about the information question, and it is largely responsible for the development and promotion of many of these sources. The activities of this organization, particularly at the local level, give farmers an opportunity to communicate with invited guest speakers on relevent issues, thus providing an effective information medium. The Extension Department of Macdonald College is another information source which welcomes inquiries from individuals concerned with agricultural issues.

The Macdonald Journal

The front-cover change of the Macdonald Journal has received very favourable comments from Macdonald College faculty, farmers and our advertisers. The change for the better does not mean the journal is out of economic problems, but there is light at the end of the tunnel.

It may be of interest that the Macdonald Journal is the only English farm magazine in Quebec and with the help of our supporters, we will continue. There are a number of changes brewing. An increase in subscription rates, which has been held off for years, is inevitable because of our increasing production costs. Also, it may be necessary to diminish the frequency of publication or to publish joint issues. However, we will continue to provide information needs in the field of agriculture as best we can with the resources available.

Martin van Lierop,
Editor.

Canadian Grain and Livestock Situation and Outlook

by A. Douglas Mutch
Department of Agricultural Economics

Overview

Agriculture in Quebec has always been dependent in varying degrees on the situation elsewhere in Canada and the rest of the world. As global trade levels increased substantially in recent years, these non-Quebec influences have become more important. Non-farm factors have also had a greater impact on the farm community. For example, the recent policy decision by the provincial government to institute an agricultural zoning act will permanently separate the agricultural and non-agricultural land markets in Quebec. In 1979, non-farm and non-Quebec influences will continue to impact greatly on the farm community.

Those products which are priced through marketing boards and not by market forces — such as dairy products — will continue to reflect production costs. However, recent price increases have met increased consumer resistance and any further price increases could necessitate supply cutbacks. In addition, consumer criticism of marketing boards or "supply management" techniques is gaining support in non-farm circles. Quotas, and quota prices in particular, could face more scrutiny in the year ahead. Although little will be done prior to the federal election, there is a good chance that some policy changes will be made later in the year. It must be remembered that the current policy is not written in stone.

The continued decline of the Canadian dollar in 1978 vis-à-vis the U.S. dollar and other major world currencies gave additional strength to Canadian farm product prices. Since 1976, the Canadian dollar has dropped from a value of $U.S. 1.03 to a current level of $U.S. 0.83. This 20 per cent decline in the Canadian-U.S. exchange rate has kept Canadian prices relatively stronger than those in the United States. In 1979, the Canadian dollar will probably remain in the $U.S. 0.80-0.90 range, but the actual level will depend directly on the economic policies of both Canada and the United States. If the Canadian dollar faces further weakness in the coming months, new policies designed to bolster the exchange rate can be expected from Ottawa.

In general, the agricultural situation in Quebec and Canada will depend more heavily than usual on policy decisions in 1979. This is particularly true for the grains sector as global surpluses have continued to mount. Revisions may be made in the domestic feed grain policy — which would affect the market directly — and in the U.S. grain price support policy — which would affect the Canadian market indirectly. For livestock, the critical areas to watch are North American beef import quota levels and European Community pork export subsidy programs.

Grains

Total world wheat and coarse grain production in 1978-79 is now estimated at 1.17 billion tonnes versus 1.08 billion in 1977-78. This is a new record and means that the three largest global grain crops ever produced have come in the past three years. Not surprisingly, this has resulted in estimates of record stockpiles at the end of the crop year of 213 million tonnes versus only 166 million at the end of the 1977-78 crop year. Similar production levels in the year ahead would add further to these stockpiles. Increased global output in 1979, which is a distinct possibility, would make supplies extremely burdensome.

The United States is expected to hold at least 89 million tonnes, or roughly 39 per cent, of the global stockpiles. This is the result of current U.S. price support policies. Unless production difficulties are experienced in 1979, further U.S. stockpile accumulations appear likely. Continuation of the present U.S. policies would be very expensive if normal output is realized. As the U.S. government is attempting to curtail expenditures, it is likely that much of any additional surplus will be allowed onto the market in 1979. In 1978, U.S. price supports kept U.S. average corn prices at, or slightly above, the $2 per bushel loan rate. In 1979, U.S. corn prices could drop below these levels.

Canadian crop production did not reach record levels in 1978, but supplies remain more than adequate due mainly to the constraints of the Canadian export system. Prices for

Table 1. Canadian Crop Production

Crop	(Thousands of Bushels) 1978	1977	1978 vs. 1977
Winter Wheat	13,737	30,973	—17,236
Spring Wheat	659,922	651,916	+ 8,006
Durum	103,300	46,900	+56,400
All Wheat	776,959	729,788	+47,170
Oats	234,777	279,015	—44,238
Barley	477,883	541,906	—64,023
Rye	23,833	15,999	+ 7,884
Flaxseed	22,000	25,600	— 3,600
Rapeseed	153,200	87,000	+66,200
Grain Corn	165,931	165,209	+ 722
Soybeans	17,455	19,377	— 1,922

wheat and eastern feed grains improved from year earlier levels while western feed grains, especially barley, remained weak. Prices for 1979 must reconcile themselves with both the U.S. situation and that in western Canada. Surplus supplies in both locations are assured, but prices remain dependent on policy decisions.

As mentioned above, the U.S. grain price support system has become very expensive. At present 1.3 billion bushels of U.S. grain are entered in a three-year reserve which pays the support price ($2.25 per bushel for wheat, $2 for corn) plus a 25 cent per bushel annual storage payment. 1978 and 1979 U.S. wheat crop is not eligible for this reserve while no decision has been made for 1979 corn crop. As the objectives of this program have already been exceeded, it is unlikely that further entries will be allowed in the year ahead except for some 1978 corn crop which is still currently allowed in under previous commitments. Barring production difficulties. U.S. grain supplies available for the market could thus become very burdensome in the year ahead. Further corn price strength is thus unlikely.

In western Canada, the Canadian Wheat Board could impose quotas on domestic feed grain deliveries. If this occurred, it would most probably help push barley prices up in non-Prairie locations whilst keeping local Prairie prices somewhat depressed. Effectively, this would mean one price for the Prairies, and another higher price outside the Prairies. Needless to say, any policy changes in this area must be watched closely.

With the exception of domestic quotas being imposed on Prairie producers, barley prices will probably remain below levels competitive to U.S. corn. The European Community has produced a large surplus of barley which it is exporting aggressively on the world markets. These exports are highly subsidized and are undercutting corn by as much as $20 per tonne. As long as this continues, Canadian barley exports will remain weak and barley prices both in Canada and abroad will remain at a sharp discount to corn.

Eastern Canadian corn prices to date in the 1978-79 crop year have remained very close to the price of U.S. corn imported into Canada. Higher livestock numbers in eastern Canada have improved the demand for grain and lower Ontario corn output has eased the supply pressures. However, the major reason for the price strength of Canadian corn is that producer marketings have been kept low. Although the market supplies have thus been kept tight, this does not negate the fact that considerable quantities of Canadian corn are still in existence.

If Canadian producers insist on keeping their corn in storage and off the market, this shortage will be filled by U.S. corn and western Canadian feed grains. Imports of grain into eastern Canada have already increased sharply this crop year and if current prices (eastern corn at or above U.S. levels, barley sharply lower) continue into the spring, then even larger amounts will arrive with the opening of the St. Lawrence Seaway. If crop conditions are favourable in 1979, then eastern corn prices could face considerable weakness during the summer months if producers finally decide to market their 1978 corn crop.

Livestock and Meat

Another record year of meat production is forecast in the key commercial markets in 1979. Meat production is expected to reach 48.13 million tonnes (carcass weight equivalent) compared with 47.29 million tonnes estimated in 1978 and 46.77 million produced in 1976. Significant gains in poultry and pork output are expected to outweigh a four per cent decline in beef production. These global trends are similar to the output levels to be expected in North America.

In general, this sector can be summarized as follows: beef, good; poultry, neutral; pork, bad. North American cattle herds have been cut sharply over the past three years and available supplies will be tight in 1979. Current prices reflect this fact and beef will remain profitable for producers acting in a rational manner. Feed grains will remain cheap but this will not guarantee a profit on fed cattle if buyers continue to aggressively bid up feeder cattle prices. The beef market is strong, but prices cannot be expected to rise forever.

Pork and poultry output will expand in 1979 and these two products will compete directly with beef. Provincial boards and the announced federal marketing board, which should be established this year, will provide some protection to the poultry industry. Pork, however, is a different matter. Strong U.S pork prices over the past two years have allowed Canadian producers — especially in Quebec and Ontario — to aggressively expand output whilst still enjoying very profitable prices. U.S. producers, however, have recently begun to expand and this higher output will hit the market in 1979. As U.S. hog prices drop, Canadian prices must also fall to remain competitive.

Another cloud on the horizon is the European Community. Canadian hog exports to Japan will face increasing competition from that source. European hog production has increased in recent years and under their

Common Agricultural Policy (CAP), exports from the European Community are eligible for subsidies. Japan will buy from the lowest priced seller. Any exports lost as a result of this competition must enter the domestic market which is already approaching the point of saturation.

If beef supplies were high, pork prices would be sharply below current levels. If pork supplies were lower, beef prices would be above current levels. The high beef prices have thus helped to support pork prices. The increased pork output expected in 1979 will widen the spread between beef and pork prices as pork prices must decline in order to enable the market to absorb the higher pork availability. If consumers react sufficiently to this widening price differential and switch some demand from beef into pork, then beef prices could also soften. Too many people in the meat market are watching the low beef supplies and too few are considering the increased pork and poultry output.

Summary and Implications

Agricultural prices in 1978 were much stronger than expected. Grain prices gained strength from U.S. price support policies which removed the equivalent of Canada's total crop from the market place. Cattle prices rose sharply as the herd reductions of recent years finally brought supplies down to a manageable level. Hog prices maintained their very profitable levels only because U.S. producers delayed their expansion. All prices benefited from the lower Canadian exchange rate as Canadian prices for most agricultural products react to U.S. price levels.

In 1979, grain prices can be expected at best to maintain current levels. If the Canadian dollar strengthens or U.S. prices weaken, then grain prices could weaken. Canadian grain exports will probably not match 1977-78 levels and thus domestic availability will increase. North American grain supplies are extremely high and prices are at current levels only by the grace of U.S price supports and reluctant producer marketings The supplies are there, however, and if marketings increase the prices will have difficulty staying at today's levels.

For livestock, the critical sector is the pork industry. Eastern Canadian producers have expanded aggressively in the past two years and apparently plan to continue their expansion in 1979. Supplies will be too large for the Canadian market. U.S. producers started their expansion in September and also plan to expand further in 1979. Some exports to Japan may be lost to the European Community. Pork prices must therefore drop sufficiently to encourage consumer switching from pork into beef.

The outlook for both Canada and the United States in 1979 is for little or no growth in economic activity. If either or both economies slow down, then consumers may become more price conscious. In this environment it will be important for producers to constantly follow market developements — both on the farm and in the policy making arena.

Pigs, numbers on farms, by age group and province, October 1, 1977 and 1978.

PROVINCE	Total Pigs			Breeding Stock 6 Months and Over			Market Pigs, All Ages		
	1977R	1978	1978 AS PERCENT OF 1977	1977R	1978	1978 AS PERCENT OF 1977	1977R	1978	1978 AS PERCENT OF 1977
		'000			'000			'000	
Total	6555.0	7284.4	111	732.2	817.9	112	5822.8	6466.5	111
P.E.I.	80.0	97.0	121	10.0	11.0	110	70.0	86.0	123
N.S.	79.0	88.0	111	9.0	10.0	111	70.0	78.0	111
N.B.	42.0	42.0	100	5.2	5.5	106	36.8	36.5	99
QUE.	1984.0	2215.0	112	213.0	245.0	115	1771.0	1970.0	111
ONT.	2110.0	2520.0	119	261.5	300.0	115	1848.5	2220.0	120
EAST TOTAL	4295.0	4962.0	116	498.7	571.5	115	3796.3	4390.5	116
MAN.	665.0	688.0	103	68.0	72.0	106	597.0	616.0	103
SASK.	520.0	540.0	104	56.0	58.0	104	464.0	482.0	104
ALTA.	1005.0	1015.0	101	101.0	107.0	106	904.0	908.0	100
B.C.	70.0	79.4	113	8.5	9.4	111	61.5	70.0	114
WEST TOTAL	2260.0	2322.4	103	233.5	246.4	106	2026.5	2076.0	102

(R) Revised Figures

(Source: Statistics Canada)

Those Blooming Flowers!

by Professor Calvin Chong
Department of Plant Science

As more people turn to ornamental plants for aesthetic and recreational purposes, the unprecedented growth of the ornamentals industry since the early 1970s is not surprising. Plants preserve our surroundings and enhance our quality of living. According to results of a recent survey requesting people to choose among 26 items they considered important to their happiness, "95 per cent of the respondents wanted green grass and trees, plants and flowers." In another survey, 48 per cent of 280 doctors said gardening was their most important hobby. The concept of "horticultural therapy" recently put into practice by many across North America, recognizes the fact that working with green plants reduces tension and really helps people with problems.

Ornamental plant production in the broad sense can be categorized under two major divisions: Greenhouse floricultural and related crops such as cut flowers, holiday pot plants, foliage plants for interior use, and bedding plants for outdoor use; and nursery crops such as trees, shrubs, ground covers, and turf.

Expanding Market

Canada's ornamental industry makes a significant contribution to our agricultural economy. Flower and plant sales from Canada's 1,678 commercial greenhouse growers surveyed by Statistics Canada in 1977 totalled $139 million compared with $124 million in 1976. Sales of nursery plant materials (including fruit stocks) totalled $59 million in 1977 compared with $55 million in 1976. Quebec alone accounts for approximately 11 per cent of all ornamentals sold in Canada.

Early spring sale of bedding plants at a greenhouse production site.

Within the ornamental industry, bedding plants grown for spring garden sales continue to be a viable greenhouse crop with a steadily increasing market. Despite lack of "hard" statistics, over 10 per cent of greenhouse ornamental sales in Canada can be attributed to spring bedding plants. On the average, it is estimated that the annual increase in both production and price of these crops is in the area of seven-eight per cent. With about 80 per cent of the Canadian people classed as urban, trends in bedding plant sales appear to be a good indicator of the "health" of the ornamental industry, since these plants are purchased by a broad segment of "ornamental consumers."

Profitable Cash Crops

Bedding plants are propagated mainly from seeds, produced in mass numbers, and sold for use around homes, parks, and other outdoor places. To the consumer, bedding plants represent an instant and colourful assortment of flowers and garden plants which can be purchased cheaply in large numbers ready to be transplanted in early spring to gain a "head start" on the short growing season.

The term "bedding plants" originally referred to plants grown for elaborately designed flower beds that were planted each spring in public parks and private homes in the early 1900s. Actually, today it would be more accurate to refer to these plants as "flower and vegetable transplants" since, as a group, bedding plants include partially grown annual flowering plants, some biennial and perennial flowering plants, and also vegetable transplants. It is said, however, that these are called bedding plants because working with them induces relaxation and sleep and, for many, is a good substitute for Valium! In commercial production, seeds are sown in the greenhouse usually between January and April. Seedlings are transferred to multi-plant containers called flats or packs, and continue growing until spring when they are sold as young plants ready to be transplanted by the consumer to the garden or landscape, after the last expected frost date, usually towards the end of May in this area.

Seeds of most bedding plants germinate quickly and reach saleable size in a short time. The approximate times required to produce some major bedding plant species are shown in Table 1. The growing times will naturally vary somewhat according to cultivars and differences in cultural factors. Although plants are easy to grow, attention to details in cultural factors such as control of temperature, humidity, nutrients, soil media, light intensity, and soil moisture levels must be consistent and correct. Use of a good soil mix, such as a 1:1 mixture of coarse sphagnum peat moss and vermiculite or one of many proven commercial mixes, is most critical.

Unlike other types of greenhouse ornamental growing operations, which are normally more capital intensive, a bedding plant operation is less costly and relatively simple to establish on a small scale using one or more heated plastic greenhouses. Furthermore, sales of the crops can be expected to yield a high margin of profit per unit greenhouse space. Bedding plants are commonly sold at the production site or at roadside stands similar to field cash crops.

Energy and Inflation Problems

Nearly all bedding plant seeds require a soil medium temperature of 19-24°C for good germination. Although ideal growing-on night temperatures vary widely from 10-21°C depending on type of crop and stage of development, most bedding plants will develop quickly and vigorously at a night temperature of 16°C and day temperature in the 22°C range. In fact, applications of growth regulators at the appropriate time during the early stages of growth are commonly used to prevent excessive "stretching" of plant tops.

Bedding plants can be started earlier than those times shown in Table 1 and grown for longer durations under lower temperature regimes or, alternatively, they can be started later and grown for longer durations under higher temperature regimes. Understandably, however, the conservation of energy in greenhouses and efficiency of operation have caught the attention of many growers and horticulturists because of the prolonged cold winters and of increasing costs of fuels and other inflated operational costs, especially labour. In view of this, proper scheduling of bedding plants with a minimum amount of handling from seed to saleable plant is becoming a more important consideration in present growing programs.

In recent years, engineers, researchers, and innovative growers have devised and installed systems that can reduce heat loss from greenhouses by as much as 50 per cent. Plant breeders are continually in search of new cultivars capable of faster growth to reduce production time and also of cultivars capable of adapting to lower growing temperatures to save energy. Research in the United States and Canada is currently underway to determine the effect of lowering greenhouse night temperatures according to the new "split night" concept.

"Splitting" or reducing greenhouse temperature for a portion of the night (i.e., standard temperature for the first few hours after sunset followed by at least 10°C lower for the remainder of the night) shows possibilities for saving fuel with no loss of growing time or of plant quality. Preliminary research results indicate that certain cultivars of chrysanthemums, lilies, marigolds and petunias can be grown under the "split night" regime with little or no reduction in size, appearance, or stage of development compared with standard temperature regime. Unlike most approaches, which consider the physical and engineering aspects of energy conservation, the "split night" concept has a physiological basis.

Table 1. Average time to produce saleable bedding plants from seed.

4 weeks	5 weeks	6 weeks	7 weeks
Kochia	Tomato Cabbage Tall Marigold (Not to flower) Tall Zinnia (Not to flower)	Pepper Asters Balsam	Eggplant Alyssum Calendula Coleus Dahlias Impatiens
8 weeks	**9 weeks**	**10 weeks**	**11 weeks**
Celosia Single Petunia Salvia Tall Snapdragon (Not to flower) Dwarf Zinnia	Onion Ageratum Dianthus Lobelia Dwarf Marigold Stock Verbena	Double Petunia	Carnations Dusty Miller Larkspur Dwarf Snapdragon
12 weeks	**13 weeks**	**14 weeks**	**15 weeks**
Portulaca Vinca Rosea	Pansy	Begonia Browallia Nierembergia	Geranium

Source: Ninth International Bedding Plant Conference, 1976, Bedding Plants Inc. p. 191.

Changing Consumer Trends

The bedding plant scene, from the standpoint of both consumers and growers, changes constantly. To keep abreast of new technologies and trends, many growers across North America, including Canada, are members of Bedding Plants Inc., which distributes the monthly BP News to all members. One survey printed in BP News each year indicates the popularity or extent of production of each type of bedding plant produced by growers. Results of the 1977 survey are shown in Table 2. As in past years, vegetable transplants, petunias, geraniums, impatiens, begonias, and marigolds — the "big six" — are the most important of the bedding plant crops. However, the order of the "big six"

changes from year to year. For instance, vegetable transplants as a group still rank as some of the most important crops in the bedding plant business, but in recent years there has been a slight decrease in the per cent of vegetables grown in relation to flowering bedding plants. This is because vegetable plants do not have the potential demand as do flowering bedding plants: whereas the market demand for vegetable transplants is ultimately restricted by the stomach capacity of consumers, flowering plants have a more elastic demand. Production of seed geraniums has been increasing rapidly. This crop is potentially the "hottest item" in the spring plant business today. The predictability of production and good garden performance of new free-flowering hybrid cultivars have been main assets. Since these cultivars can be grown from seed to bloom in 10 to 12 weeks or less, they will be grown more by producers as demand increases. Alternatively, supplies of seedling geraniums can now be obtained from Florida cheaply enough to enable repotting in time for sale in bloom five weeks later, thus eliminating seeding in mid-January when heating costs are high.

In view of scanty marketing information in the ornamental industry as a whole, intensive marketing research such as that released in 1978 by the Nursery Marketing Council (NMC) will help to provide useful guidance to the industry. The NMC research shows that homeowners can be divided into three distinct groups based on the amount they are likely to spend per annum on outdoor living plants, related products, and services. Homeowners of the first group spend about $200 per year, are high income earners (at least $25,000 per year) and are more concerned with quality, service, and a wide assortment rather than with high prices. Homeowners of the second group spend about $70 per year, are middle income earners (about $20,000 per year), are interested in plants as a means of helping to maintain the standard of the neighbourhood and are concerned with quality and prices. Homeowners of the third group spend under $40 per year, are low income earners (less than $15,000 per year) and are more concerned about prices rather than quality. The interesting fact is that less than 20 per cent of homeowners account for almost as much expenditure as the remaining 80 per cent. This type of information is important as it helps growers to better assess the behavioural pattern of potential consumers and to develop new marketing strategies suited to local situations.

Looking into the Future

The search for new cultivars, as in the case of seed geraniums, will continue to be important. The development of new "bionic" bedding plants guaranteed to grow anywhere with little care will be emphasized more. Research developments in the technology of plant production will include more application of new tissue culture methods for propagating bedding plants and more use of new labour-saving devices such as automatic seeders and transplanters. Introduction of lower cost solar energy systems adaptable for greenhouse production on a large commercial scale will be of tremendous benefit. These and other new developements will open new and exciting possibilities for further growth potential of those blooming plants.

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BP News (monthly). Bedding Plants, Inc. 4479 Seneca Drive, P.O. Box 286, Okemos, Michigan 48864 (membership. $6 per annum).

Table 2. Average per cent of each bedding plant grown in 1977[a]

Bedding Plant	Average per cent	
Vegetable transplants (as a group)	23.8	
Tomatoes		14.0
Peppers		5.9
Cabbages		3.9
Petunias (as a group)	21.0	
Grandiflora		13.0
Multiflora		8.7
Doubles		4.0
Geraniums (as a group)	18.4	
Cuttings		12.0
Seeds		6.4
Impatiens	6.4	
Begonias	6.0	
Marigold	4.7	
Salvia	2.7	
Alyssum	2.6	
Ageratum	2.4	
Snapdragon	2.4	
Lobelia	2.0	
Portulaca	1.9	
Asters	1.8	
Zinnia	1.5	
Vinca	1.4	
Celosia	1.4	
Browallia	1.3	
Dahlias	1.3	
Phlox	1.0	
Verbena	1.0	
Others	7.2	

[a]Source: Voight, A. 1978. Rating trends of specific annuals. BP (Bedding Plant) News (January issue).

Oats — An Adaptable Crop

(The following is from a taped interview with Professor H. R. Klinck of the Department of Plant Science. Questions were asked by Hazel M. CLarke.)

Oats or barley?

Cereal grains are produced as a source of energy primarily, and barley is a higher energy feed than oats. We must be realistic, however, as to the importance of oats in Quebec, because there are many areas where farmers simply cannot grow barley owing to adaptation problems. The ability of oats to grow on soil that isn't quite as well drained or isn't quite as fertile means that farmers can grow oats where they cannot grow barley. It is really a matter of having a crop from which you can get some kind of yield from rather marginal land — and oats is it.

What is the nutritive value of Quebec-grown oats compared to western oats?

If we are talking about the nutritive value, we think immediately of protein and, generally speaking, the protein content of our oats is about one or two per cent lower than the protein content of western oats. The rainfall in the West is slightly lower and therefore there is higher percentage protein. I don't think this is too serious. If you have to have a certain level of protein, then it is a matter of supplementing it. In terms of breeding, we have talked with animal nutritionists and they have told us not to worry about the protein level in oats, because if we have to select for high protein, then we are going to lose out on something else. For instance, the chances of finding high yield would be more restricted; therefore, from an economic standpoint, it is probably better to supplement the protein from some other source. The result is that we have not worried very much about protein content — we have gone all out for yield. It also depends on the season; in a dry summer the protein content is going to be up.

Is Quebec oat production increasing or decreasing?

We were running somewhere between 800,000 and one million acres 10 or 12 years ago, and this has gradually dropped off to about 600,000 acres at the present time. One reason for this is because of an increase in corn acreage, in barley acreage, and in spring wheat acreage. While the acreages of these three crops have not been sufficient to take up all of the decreased acreage in oat production, the government's promotional program for alfalfa has also taken some of it.

Oats have been somewhat neglected, somewhat talked down for a few years in favour of barley, wheat, and other crops. However, we have to come back to this question of adaptation and the fact that oats is the only cereal grain that can be grown in many areas. Thus, my prediction is that we will end up at something in the order of half a million acres on a more or less permanent basis. It may still go down somewhat from the current level, but I think it would round off at about 500,000 acres and that's all right. If we can bring in some of the higher energy crops to replace oats, then this is good where it can be done.

What are considered good yields?

It is difficult to say exactly what a good yield is. If you look at the provincial average, it is 45 bushels per acre, plus or minus a couple of bushels. This, of course, is an average, which takes in the good fields and the poor fields. A farmer with good management practices should be able to get 80 bushels per acre fairly easily. That is still less than 1-1/2 tons of oats per acre, and a good farmer will get that. In fact, a few years ago there was a farmer in the Joliette area who reported 140 bushels per acre. That was unusual, but it can happen.

What are some of the requirements for good yields?

Timely seeding, because there is a relationship between the time of seeding and the yield. Generally speaking, if seeding is unduly delayed, yields are going to be depressed. Farmers are advised to get oats in as early as they can get on the land in the spring. There is an old thumb rule that says a day's delay in the spring is a bushel per acre loss at harvest, and this holds fairly true.

Good seed is another factor. A farmer should always use Certified or pedigreed seed or have a good idea of where the seed came from that he is using and what the cultivar (variety) is, because there is a great deal of non-descript material sown. Some farmers will even sow western oats that they have brought in because they look good, and they may be completely the wrong cultivar.

A well-drained, fertile loam soil will give the highest yields. Even though oats are widely adapted and will grow on poor soils, farmers are not going to get good yields. For good yields you have got to have good fertility and good drainage. Soil testing will indicate the need for specific nutrient elements and what levels are required. A 5-10-10 fertilizer at somewhere between 300 and 400 pounds per acre is a general recommendation.

A farmer should make certain that the crop is managed properly in terms of timely spraying to keep weeds under control and then, of course, use the proper cultivars. At the present time six cultivars are recommended for the province: Alma, Garry, Yamaska, Dorval, Scott, and Laurent. The details of these cultivars, their relative maturities, and so on are in the Conseil de Production Végétales du Québec (C.P.V.Q.) recommendations, which everyone has access to. These recommendations are based on extensive tests across the province.

What are some of the problems?

One of our major problems with oats is lodging, and part of the reason is that we do not have strong-strawed cultivars available. Plant breeders are continually looking for better material and one of the approaches is to go to short-strawed or dwarf-type material. Oat breeders at the Canada Department of Agriculture Research Station in Winnipeg have found a dwarf-type of oat which could be used as parental material in developing short-strawed oats. This might solve the problem, but I think that we in Quebec are still in a situation where we need straw. Look at the price of it!

Diseases are another problem. One that attacks both barley and oats is the barley yellow dwarf virus which is spread by aphids. In oats it is often referred to as red leaf and the symptoms are patches in the field where the leaves have turned a red colour. Some leaves may be a pale yellow. It is easy to recognize and is not very serious in Quebec as far as we know, although there is a fair amount of it around in both barley and oats. We are looking into the development of cultivars with some degree of resistance.

Rusts, generally speaking, are not a problem. Most of the cultivars that are recommended for Quebec have limited rust resistance, and this has not been a major problem here as it has been in the West. The occasional farmer will get rust infection in the occasional year.

Septoria is another disease which comes and goes. A few years ago there was quite an infestation of it and many crops were damaged. This is a disease which affects the internodes of the stems, and it weakens the straw resulting in severe lodging before the crop is mature. The extent to which this develops depends on weather conditions and in most years Septoria is not a problem. It is always with us, we recognize it but, as with some other diseases, there is really very little in the way of resistant parental material that one can use in a breeding program to get resistant cultivars. The most we can hope for is a degree of tolerance.

Oats and. . . .

Most oats are handled as a grain crop for feeding purposes. There are some acreages grown for hay or silage, and one of the uses that the oat crop is put to is as a nurse crop where forages are seeded along with it. It serves to keep the weeds down to some extent and provides a crop in the year of seeding. There are about 125,000 acres of mixed barley and oats grown each year in the province. This could be a 50-50 mixture or a 40 barley — 60 oats mixture. This way the farmer has a mixture which has a little higher energy content that he can feed more or less directly without having to mix it in the mill. It also gives the farmer some insurance against crop loss because, depending on the season, oats may do better one year, barley may do better another. If he has them both, he has a fighting chance of getting a fairly decent crop. Occasionally, farmers mix in spring wheat as well. They must make certain that the maturity range is similar for the two — or three — crops. That's really the only restriction, and there are specific recommendations in the C.P.V.Q. recommendations.

Oats in Rotation

Normally, where a farmer has a rotation system, oats will fit in. Prior to seeding down with forages, he may use a rotation with oats for a year or two followed by forage crops for one, two or three years, and then he may put in corn for a year or two and then back to oats. It can be a four- or a six-year rotation, depending on how he wants to handle it. If we are thinking of oats themselves, it is advisable to use a rotation rather than running continuous oats, because when you have oats growing in the same field year after year, you tend to get a build-up of some of the disease organisms in the soil which attack the crop. Using a rotation is a risk-reducing factor.

What's new in oats in Quebec?

We have a new cultivar, Laurent, that was developed here at Macdonald. It went into production in the spring of '78 under contract and there will be Certified seed available to farmers this spring. The stocks are still being built up by seed companies that are handling this cultivar, but by 1980 there should be a good supply.

What research are you working on?

I mentioned energy earlier: that oats are lower in energy than barley, wheat, or corn. We have felt for some time that if there was some way that we could increase the energy content of the grain in order that it would be more competitive as a feed grain with the other cereals, we would have it made. As I indicated earlier, oats are going to be around for a long time. We've got them; we had better do something about them. We have difficulty in getting the yields very much higher, and part of this is associated with the lodging resistance. If you get too

much grain and you don't have enough straw under it, then you run into problems.

There is, however, another way of increasing the energy content without necessarily increasing the yield and that is by concentrating the energy into fat. Ordinary oats have around 4-1/2 per cent fat or oil, and have genetic material that will permit us to at least double that. We have been working on this as have the people in Winnipeg, and they, in particular, have looked at the nutritional aspects. There are certain feeding problems if one gets too high a fat content in a cereal grain, but it appears that we could go up to seven or maybe eight per cent without having too much of a problem. If you look at the energy value of fat as compared with the energy value of starch or carbohydrate, a gram of fat contains about 2-1/2 times as much energy as a gram of starch. What we are attempting to do in our breeding program is to develop oats which are higher in fat but which contain the starch content at least at the original level. Thus when we have a pound of these finally, we are going to have something that produces more calories than formerly. We do not have anything ready for release yet, but we are working on it.

We are looking at thinner hulls. The hull content of oats will range anywhere from about 20 to 32 or 33 per cent, and therefore we are trying to select cultivars in which the hull content is in the low 20s. Again, this is associated with energy, because there is very little energy in the hull.

We are also looking at some other factors in terms of improving the plant. We would like to improve the synchrony of tillering in order that all the heads that are produced in a crop are at more or less the same stage. If we could have the main culm developing and right behind it whatever tillers that are going to develop so that they all head and mature at about the same time, this would be ideal.

As well, we are looking at the emergence of the spikelets in the head itself. There is a big difference in cultivars as to the time it takes from the appearance of the very first spikelet until the head is completely out. This can range from about four up to eleven or twelve days in different cultivars. I have a student working on this. We are trying to see whether it is possible to have a cultivar in which the panicle virtually bursts forth within a very short period of time so that from a physiological standpoint all of the florets are there ready to receive photosynthates and hopefully then they would mature at the same time. What happens now is that the first developed florets are at the top of the panicle, and they are always larger than the florets down at the base of the panicle. We feel that part of this is because of preference in the distribution of photosynthates. We hope to get something that will develop more uniformly and give us a more uniform seed size throughout the head. The other aspect of this is that within any given spikelet there are normally two, possibly three, seeds developed, and the second and third ones are always much smaller than the first one. We are looking at a large number of cultivars to see what variation there is in the relative size of the first grain and the second grain with the idea of seeing whether it would be possible to develop cultivars in which the second grain was almost as large as the first one. Again it is a question of trying to improve the uniformity of grain size. This would have the advantage from a seed production standpoint of less clean-out, and we hope it would improve yields as well. This is a long-term project that we are beginning on.

Tied in with this is the general concept of increasing grain size. The newer cultivars that we are working on are going to have much larger seeds than formerly. Part of this is related to stability. It seems that from the standpoint of consistent yields year after year, larger grains are more reliable and therefore we are looking into this.

We are also looking at straw yields. We have had a student measuring the straw as well as the grain in a large number of cultivars, and we are going to find out what the economic returns would be for the straw itself compared to the grain. Also from this we can look at what we call harvest index — this is the ratio of the grain portion to the whole plant, because this is related to yield as well.

Another aspect is that we are trying to see whether we can develop complete plants from a single pollen grain. This is a concept that has been used in barley for a number of years. It is a rather complex approach to breeding, but it has the advantage of speeding up the breeding program if we can achieve it. It has not been done in oats, but we have a graduate student working on it and she is making some good progress.

I would like to sum up by saying that oats have their place, that we must keep working on them from the standpoint of developing new cultivars and doing research, because they are going to be around for a long time. We simply have to improve them, providing we can still get funds to do so. The Quebec government has been placing emphasis on the higher energy crops such as barley and wheat for good lands where they can be grown, because the returns are going to be greater in terms of energy production. They are, however, providing me with a sizable grant for cereal breeding, and a great deal of this is for oats. We are getting this support, and we hope it will continue.

The Crumbling Dollar
Benefit or Burden for Canadian Agricultural Trade?

by Mike Katz and Marcel J Couture*

Introduction

Canada is a trading nation. About 40 per cent of our annual farm cash receipts come from exports. Since June 27, 1976, when it reached an all-time high of U.S. $1.0389, the Canadian dollar (C$) has been falling. The drop picked up in January 1977, when the Canadian dollar was worth just under U.S. $1. These last few months it has more or less stabilized just under U.S. $.84. (At the time of writing, January 31, 1979, the Canadian dollar was worth 83.38 cents U.S. in New York.)

This is only one aspect of the total picture. The other aspect is one that few people realize but it is as important, and that is the downfall of the Canadian dollar in relation to other foreign currencies. For example, from October 1977 to January 1979, the value of the Canadian dollar decreased in relation to the Japanese yen by approximately 40 per cent, in relation to the Swiss franc by almost 50 per cent, and by about 35 per cent in relation to the German mark. The list could go on! What does all this mean for Canadian agriculture?

The Effect of the Lower Canadian Dollar?

A change in value for the Canadian dollar means varying levels of domestic marketings, of exports and imports, and prices and costs.

Although Canadian agricultural export health had deteriorated since the early 1970s, with poor performance in all but grains, exports recovered lost form with the fall of the Canadian dollar in 1977. A record level of exports bounced over the $4 billion mark in total for the first time, for an increase of 7.5 per cent over 1976. Again, 1978 exports topped 1977's for a new record. Exports in 1979 are expected to increase again.

The federal government Agricultural Outlook series summarizes annual Canadian agricultural performance, with forecasts for the coming year. Much of the following material is drawn from this source.

In nearly all sectors the stimulating effect of the lower Canadian dollar is beginning to be felt. Grains and oilseeds are most significantly oriented to the export market, with almost three quarters of Canadian wheat exported, and about two thirds of national agricultural shipments abroad made up of wheat and coarse grains.

Overseas wheat shipments in 1976-77 increased to 13.4 million tonnes, although lower international prices resulted in reduced receipts compared to 1975-76. The 1977-78 crop year saw a 19 per cent increase in shipments to 16 million tonnes, second only to the record 16.2 million tonnes of 1963-64, while Canadian wheat prices firmed up over their lowest levels since 1972-73. Market share increased to 22.2 per cent, from 21.8 per cent in 1976-77. However, the International Wheat Council forecast of record world wheat production in 1978-79 implies reduced Canadian wheat and flour exports, although a change in Canadian wheat prices from recent levels is unlikely in the next four to five months.

The world grain trade is marked by highly variable international prices. Despite a lower Canadian dollar, the tough competition, especially in wheat, may prevent a significant long-term expansion of our international market share.

Due to an increase in year-end carry-over stocks for the second consecutive year, general downward pressure on prices, and generally hard competition, Canadian coarse grain exports dropped slightly to 4.3 million tonnes, following a drop to 4.6 tonnes the year before. Looking to 1978-79, prices are expected to hold; forward barley sales seem to be spearheading a higher level of Canadian coarse grain exports than in the 1977-78 crop year, for a slight comeback in coarse grain exports after a steady drop over the last two crop years.

Skyrocketing demands for oilseeds and oilseed production in 1977-78 and 1978-79, particularly in western Europe and Japan, have strengthened North American prices and encouraged production to double in 1977 and go up by half again in 1978. While Canadian rapeseed exports increased in 1976-77 and held in 1977-78, 1978-79 exports are forecast to increase by approximately 50 per cent. Flaxseed sales, which dropped 25 per cent in 1977-78 after just about doubling in 1976-77, have also increased by 100 per cent to November 22 this past year.

Traditionally, it has been livestock exports, the second largest sector involved in the export trade, that have been the most sensitive to changes in the exchange rate. However, sector prices and marketings seem at present mostly guided by the 1978 downturn in the cattle cycle, leading to reduced cattle stocks and higher beef prices.

The effect of the lower Canadian dollar has been primarily to loosen

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the close link of the Canadian and U.S. meat economies. Canadian prices can stay higher by raising the ceiling (by about $5-$6/cwt for beef) at which U.S. beef imports become competitive, with beef prices (Toronto) averaging about 36 per cent above year earlier levels during the first half of 1978. Despite this, and a strong market for Canadian beef in the U.S., a sharper decrease in Canadian cattle slaughter led to a 400 per cent rise in imports of U.S. steers and heifers for slaughter in 1978. Exports of meat and livestock have risen steadily since 1974. The outlook is for continued price strengthening, at about 15 per cent per year through 1979 and 1980 for fed beef (A1 and A2 steers), with some uncertainty, as an appreciation of the still unsettled Canadian dollar would restrict the rise.

Pork exports to Japan in 1977 rose 23 per cent over the 1976 level for a record high, although pork exports to the U.S. in 1977 stayed low at 19.8 million pounds. Coupled with an increase in live cattle exports to the U.S., the new Japanese demand for pork contributed to a positive trade balance in meat and livestock in 1977 of $32 million, compared to a 1976 deficit of $98 million.

Pork exports to Japan to November 11, 1978, were 20 per cent below their year-earlier level. On the other hand, a brisk trade to the U.S. market in 1978 coupled with a significantly sharp cut in imports from the U.S. are giving Canada its first positive trade balance in pork in five years. Domestic hog prices also rose in 1978. The 1979 outlook is for increased hog marketing with prices expected to hold at least until the fall quarter, when U.S. marketing may increase.

Chicken prices increased in 1978 at all levels, but increased Canadian marketings have been matched by increased imports as strong gains in domestic consumption continue. Prices should moderate but stay above last year's levels until the second half of 1979, when increased chicken, pork, and turkey supplies might outweigh lower beef supplies.

While dairy exports jumped 50 per cent over 1976 levels to a value of $92 million in 1977, this was not much above the annual average for exports from 1971-75 of $88 million. Skim milk powder exports, which generally account for about half of Canadian dairy product exports, will probably be down 39 per cent in 1978 from 1977 levels. The Canadian share of the international market will face difficulties in 1979, due to the tough competition from the other developed countries — especially the European Economic Community (EEC), which spent in 1978 the equivalent of $5.7 billion, Canadian, supporting its dairy industry (compared to the Canadian dairy budget for 1978-79 of $329 million).

Prices and supplies of farm inputs will probably follow the pattern of slight change from the previous year established in 1977 and 1978. Energy was up 7-13 per cent depending on the fuel and the region, with 1979 increases depending on government decisions on price and production, here and abroad. Fertilizers were up about four per cent in 1978 and should see some increase again in 1979. Dropping prices in the U.S. for chemicals in 1978 were offset by the low Canadian dollar with consequent slight increases in Canadian prices; prices should rise another five per cent in 1979. Machinery prices rose more than 10 per cent in 1978 and are expected to climb again substantially in 1979. These increases also reflect the impact of inflation.

All of this boils down to a fine performance, although a record level of exports in 1977 was not enough to overcome the burden of increasing farm costs, generating a reduced realized net farm income for 1977 for the second year in a row. Farm cash receipts for 1978 will hit a new high of $11.9 billion, 17 per cent over the 1977 level, and high enough over the new record of $8.7 billion for farm operating expenses and depreciation charges to yield a realized net farm income of $4.4 billion, about 29 per cent over last year's $3.4 billion.

These gains, of course, do not divide up equally among Canadian farmers. Crop receipts are up 12 per cent to $4.9 billion in 1978, but livestock producers will see a 25 per cent increase in receipts to $6.5 billion. Total cash receipts also vary among the provinces, from an increase of six per cent in New Brunswick to Manitoba's high of 24 per cent.

The outlook for 1979 is more of the same. Increased receipts from livestock, steady or marginally increasing receipts for grains and oilseeds, a new high for input costs, suggest that 1979's realized net income will not differ much from 1978's, as increases in expenses largely offset increases in receipts.

The Long-Range Outlook

Since the volume of agricultural trade is dependent on the policies of foreign governments, the level of sales Canadian farmers can look forward to in the international market is highly uncertain, irrespective of the value of the Canadian dollar and of the competitiveness of our Canadian products on the world's market place.

However, a switch in the emphasis of Canadian agricultural trade may be in the offing. Traditionally Canada's major trading partners and export markets in this area have been Japan, the U.S., and the EEC. From 1965-74, the value of Canadian agricultural exports increased by 140 per cent. However, this dramatic increase was marked by the declining importance of Canada's traditional market and the development of new markets. While Canadian exports to developed countries increased by 85 per cent, they increased by 370 per cent to the lesser developed countries. The lesser developed countries consumed 19 per cent of Canadian agricultural exports in 1965 but 37 per cent in 1974. For the foreseeable future these countries will provide a substantial market for cereal grains, although prospects for livestock and animal products exports face the uncertainty of government policies.

World agricultural trade may thus be entering a new phase, and the prospects appear favourable for further increases in farm exports.

The devaluation of the Canadian dollar is not all negative. On the contrary, it will continue to provide a welcomed and substantial boost to Canadian agriculture.

The Family Farm

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SEEDING TIME

by Josée de Grandmont, Agronome

The snow has not yet quite melted from the fields, but already it's the beginning of a new season for Quebec farmers. However, preparation for this season started long before spring. Last fall, crops were planned, soil was analyzed and lined, and fertilizers and pesticides were ordered. Fields were ploughed, lime and part of the fertilizers were spread. In addition, farm machinery was checked and repaired and crop insurance premiums were paid to reduce possible financial loss in the event of a poor crop.

However, at this time of year, there is a very important point which demands our attention but which is, unfortunately, neglected by many farmers, i.e., the use of good seed. However careful the farmer is in choosing his soil, in applying his fertilization, and in seeding or crop management, his efforts may well be in vain if he plants poor quality seed. In Quebec, too many farmers still use poor quality seed, thus endangering their crop yield.

How to choose good seed

Several factors affect seed quality. The following are of primary importance:

—germination and vitality
—absence of impurities
—absence of disease
—suitability of the cultivar
—authenticity of the cultivar

These factors cannot all be judged on sight (the rate of germination, for example). That is why choosing seed by relying solely on the appearance of the grains is not a recommended method of selection.

Seed groups — There are two groups of seed: general seeds of commerce and pedigree seed.

General seeds of commerce

There are five classes of pedigree seed: Breeder's seed, Select, Foundation, Registered and Certified.

The first four classes are used mostly in multiplying seed. The Certified class consists of the pedigree seed recommended for the production of feed grains.

Certified seed

Certified seed is grown from breeder's seed, select seed or foundation seed, which has been produced in a way that maintains satisfactory identity and genetic purity, under the surveillance and approval of the Canadian Seed Growers' Association and the Plant Products Division of Agriculture Canada. This seed ensures a healthier crop and a better yield than seed harvested on the farm. Certified seed has many advantages:

—It guarantees the cultivar; being pure, it helps the crop to mature uniformly. Even if the crop is to be cut green or pastured, there is an advantage in using a cultivar favourable to these purposes.
—Certified seed has not degenerated and its vitality gives it increased vigour.
—The germination rate of this seed is very high.
—Certified seed is very well cleaned and clipped. The uniform size of the grains makes for a more even flow in the seeder. Therefore, seeding is more uniform and it is easier to obtain the desired rate per hectare.
—The grains are sufficiently mature, not too closely hulled or husked, nor heated or mouldy.
—The Seeds Act permits practically no noxious weed seeds or seeds of other cultivated plants in Certified seed. Thus, the presence of prohibited or primary noxious weed grains (bindweed, dodder, couch-grass, mustard, wild radish) is not allowed.
—Because of these numerous advantages, a lower rate of seeding may be used which will still give a higher average yield.

For all these reasons, the ministère de l'Agriculture du Québec strongly recommends that farmers use Certified seed. Its slightly higher cost is largely compensated for by all the benefits the farmer derives from it and the high yields he obtains at harvest time.

Home-grown seed

Farmers sometimes do not consider it advisable to renew all their seed every year and to use nothing but Certified seed. If so, they can obtain the seed they need from the previous season's cereal crop provided that it was harvested under good conditions and has been properly stored. If it is to be used for seed, such grain must be **cleaned** and **disinfected** before being sown. It should also be given a **germination test.**

The first thing to look for in seed is a **high germination rate.** A farmer should never sow without knowing in advance the germination rate of the seed. If he uses his own seed, he will thus have to submit it to a germination test. In order to do so, he may contact the different laboratories of the Department.

Cleaning reduces the number of impurities in seed. By impurities, we mean inert matter (dust, chaff, etc.), seeds of other kinds or varieties, weed seeds, etc. These impurities reduce the value of seed, cause irregular sprouting, spread weeds, and depreciate the crop.

Freedom from disease is another quality of good seed. **Disinfection** can rid the seeds of germs which may be clinging to them. Liquid treatment of seed can be given a few weeks before sowing, at the same time as cleaning, since its effectiveness lasts. If there is no disinfection service at the cleaning station, dry disinfection may be done directly in the seeder, and the mixture sown immediately after.

If all the above conditions have been met, seed produced on the farm is much better than commercial feed grain (for instance, 3 CW seed), a non-recommendable source which too many farmers still use.

Conclusion

Whatever its germination rate and purity, healthy seed will only be satisfactory if the cultivar is suited to the local climatic and soil conditions. It is sometimes difficult to choose a cultivar since there are so many factors to take into consideration. To help the producer decide, the Conseil des productions végétales du Québec (C.P.V.O.) from time to time publish recommendations in the form of a guide, which is distributed by the ministère de l'Agriculture. Recommendations on kinds and cultivars of forage plants, cereals, etc., are made for seven large climatic zones in the province.

Since it wishes to increase crop yield, the ministère de l'Agriculture du Québec strongly urges the use of Certified seed of the cultivars recommended by the C.P.V.Q.

Reminder to all beef cattle producers

It would be advisable to note that producers who do not participate in stabilization insurance as feeder calf producers have until April 30, 1979, to enrol in the farm income stabilization insurance scheme. As regards producer-finishers, it is already too late as the 1979 deadline for participation was January 16.

We cannot insist too strongly on the attention that should be given to this program in view of the importance of the financial implications for your enterprise.

For further information concerning the farm income stabilization insurance plan for beef cattle producers, you may communicate with: Commission administrative des revenus d'assurance stabilisation des revenus agricoles, 200-A, chemin Ste-Foy, 10e étage, Québec, G1R 4X6.

Fresh Vegetables All Summer

by Josée de Grandmont, Agronome

Many people dream of having a vegetable garden. Large investments are not needed to make this dream come true. It is very often only a question of organizing the land around one's property differently and of getting down to work cheerfully. This is meant for all those who, when the warm weather sets in, become nostalgic for a "good old-fashioned vegetable garden" and who, as beginners, need a few basic facts on the matter.

1. Planning the vegetable garden

Location of the garden

When one lives in the city or in a suburb, the choice of the garden's location is often very restricted; in most cases, the land surrounding the house has to do. No matter! By observing a few principles, the city dweller can make the most of the available space.

The garden will preferably be located:

* at the back of the house;
* at a fair distance from trees because of the shade they create and because of their roots which draw the humidity and nutrients from the soil at the expense of vegetable garden crops;
* in a place sheltered from north and northeast winds in order to conserve the heat and prevent the soil from drying up. Southern exposure is preferable;
* on a flat or slightly sloping terrain. Never locate a vegetable garden in bottom-land.

It is to be noted that a huge area is not necessary for a suitable vegetable garden: a well-planned 14m² (150 ft²) plot may be enough for a beginner.

The soil

Deep sandy loam is the most suitable for a vegetable garden. Gravelly loam and clay loam are also satisfactory. Heavy clay soil can be improved by adding sand and humus, and sandy loam by adding clay and lime.

Whatever the kind of soil available, the land intended for vegetable growing must be worked, broken down to a fine seedbed and rid of weeds. If the arable depth is not at least 20 cm (8 inches) deep (for example, if refill has been used for terrassing, it must be covered with "good garden soil" from elsewhere.

Fertilization

To improve soil fertility and provide the plants with the elements needed for growth, it is often necessary to use fertilizers. There are two kinds of fertilizers: organic fertilizers (manure-compost-"green manure") and commercial fertilizers.

In general, organic fertilizers (especially manure) are inaccessible to most city dwellers. When available, they should be spread in the fall if they are slightly decomposed or in the spring if in a state of advanced decomposition. Manures have not all the same value. Sheep and poultry manure are richer in nitrogen (N) than cow manure and are therefore more suitable for growing leafy vegetables (cabbage, celery, spinach, etc.).

Commercial fertilizers are easily available on the market and very suitable for the city dweller's small vegetable garden. These fertilizers contain the basic elements plants must get in assimilable form from the soil in order to develop properly.

The fertilizer formula, consisting of three numbers, appears on the bag. The first number indicates the quantity of water-soluble nitrogen (N) contained in the fertilizer; the second number the quantity of assimilable acid (P_2O_5), and the third, the quantity of water-soluble potash (K_2O).

There is a whole range of formulae which vary with the plants grown and the soil. In the case of a city vegetable garden where crops are

limited, it is not necessary to use a number of different fertilizers. Simply choose a specially balanced commercial fertilizer for vegetables in general, and follow carefully the manufacturer's instructions. All complete commercial fertilizers are applied in the spring. They are spread over the whole area then incorporated into the soil with a rake before seeding.

Fertilizer, whether organic or commercial, must never be overused because a too strong dose may cause damage to the vegetation instead of increasing its development.

Liming

Lime is not a fertilizer but an amendment which helps correct soil acidity and improve soil structure. It is not always practical to use it because though it may improve the growth of some plants, it may also reduce the yield of certain vegetables which prefer more acid soil. However, when necessary, lime should be spread in the fall.

Plan of the vegetable garden

Once the crops have been chosen, a plan of the vegetable garden must be made. First, note that the tall crops (corn, staked tomatoes, pole beans, etc.) should always be located at the north of the vegetable garden so that they do not throw any shade on the smaller plants. Each plant must have sufficient space for ample growth. If there are any perennial crops (asparagus, rhubarb) they must be placed at the edge of the garden about 1 metre (3 feet) from the grass to facilitate cultivation.

It is preferable to sow early-maturing vegetables which are used often (lettuce, radishes, spinach) at one end of the garden (nearest the house or handiest) in order to avoid needless trampling.

When the vegetable garden is being planned, it must also be kept in mind that crop rotation is beneficial. Crop rotation, which consists of not growing a vegetable on the same spot year after year, helps to prevent the spread of plant diseases and favours optimal use of soil fertilizer. Also, remember to leave space to walk between rows.

2. Making the garden

Preparation of the soil

The preparation of the soil varies according to whether it is fallow land or sod, or was prepared in the fall. Generally speaking, the fall work consists in ploughing with manure burying (if available) and liming (if necessary). The following spring, the preparation of the soil is completed by a first digging about 8 cm deep and the burying of fertilizers. Just before sowing or transplanting, surface raking is done to obtain a 5 to 8 cm of finely divided soil.

If the soil has never been worked before, one must proceed differently, as follows:

- —turn over the ground to the full depth of the spade
- —shake all the soil vigorously from each ball of earth until only turf is left;
- —remove weeds, roots, and stones;
- —break up and level the surface with a rake and at the same time bury the fertilizer.

Sowing and transplanting

After having worked the soil thoroughly, it is time for sowing. Note here the importance of having high-quality seed and of removing seed stock every year or at least every second year. The proper sowing date must be taken into consideration together with the density and depth of seeding and the space between rows.

Sowing time. The date of sowing is determined by soil conditions. Generally, sowing is done when the soil is sufficienly warmed up and dried so that it can be crumbled by squeezing.

Depth of sowing. As a rule, seeds are covered with a layer of soil three times their thickness.

Density of sowing and spacing. These factors vary according to the kinds of vegetables grown. The directions are given on the seed envelopes.

It is preferable that some vegetables (e.g., tomatoes, cabbage, celery) be transplanted rather than sown. In this case, it is necessary to get good transplants, water them plentifully a few hours before transplanting and plant them with the ball of earth attached to the roots. Transplanting should never be done in strong sunlight, but preferably in cloudy weather or in the evening. Cabbage and tomato transplants are buried a bit deeper than they were in the flats or pots. Lettuce and celery transplants are buried at the same depth as before.

The next day, the sun may wilt the plants, but a good watering in the evening will help them regain their strength.

3. Care of crops

Crops need care in order to yield; this comprises thinning, weeding, hoeing, and watering.

4. Protection of crops

The enemies of crops are weeds, insects, and disease.

Weeds

The best way of destroying weeds in a small vegetable garden is weeding. Herbicides are recommended only for big gardens.

Insects, other pests, and diseases

Among the harmful insects and diseases found in vegetable gardens are ants, snails, larvae of common June beetles, aphids, and cutworms.

Diseases are divided into two main groups: physiological diseases caused by abnormal growth conditions (hardly controllable), and parasitic diseases caused by fungi, viruses, and bacteria.

In order to control harmful insects and diseases, it is recommended that the amateur gardener buy a product containing a multiple-effect insecticide and a fungicide. These products may be found on the market under different brand names.

Destroying weeds and crop wastes, which often harbour harmful insects and spread disease, is another excellent means of controlling insects and diseases.

This Month with the QWI

A Letter of Thanks

Our branch, **Spooner Pond,** of the QWI has sent handibags for many years. We received a reply once, years ago, from some children in Italy. This time we have had a letter of thanks from the Matron of a hospital in Lesotho, and we thought you might be interested in reading it.

"Dear Mrs. Taylor and all your women's association

"Many thanks for the great joy you give to our African children by sending us, through the children's fund, gifts of all kinds for the poor children, especially of the mountains.

"Our transport in this region is very difficult. We have been promised a better road within the next year and a half. We must always hope.

"Christmas may be around the corner when you will receive this letter. I do want to assure you that we are praying for you and all your associates. Many thanks for your great charity and thoughtfulness. May the Lord Jesus bless you all every day of your life.

"Greeting and good wishes to one and all."

Signed: The Matron and Nursing Sisters of Ma'Mohau Hospital.

We were very pleased to hear from the people there and it is very humbling to receive thanks for giving a few small articles, the cost of which is so very small, yet which apparently means so much to those poor children. Makes one wish to be a millionaire for a little while.

Mrs. Dorothy Oakley,
Secretary,
Spooner Pond WI.

ACWW Triennial Competitions 1977/80

1. Rules of Entry: Societies are asked to hold a preliminary competition. Three entries may be submitted by each Society for the International Competition. All entries must be submitted through the Society of which the entrant is a member.

2. Closing Date: Entries must reach ACWW Central Office not later than October 1, 1979, clearly marked with full name of the Member Society. Entries must be in QWI Provincial Office by June 1, 1979.

3. Insurance: This is the decision and responsibility of the Society submitting entries from the time they leave their point of origin until their return.

4. Announcement of Results: These will be made before the 16th Triennial Conference, which will be held in May, 1980, in Hamburg, Germany.

5. Judges: A panel of judges will be appointed with special knowledge of the subject. Their decision will be final.

6. Prizes: First prize: £30, Second prize: £20, and third prize: £10.

Handwork

1. A Wall Poster publicizing the ACWW Golden Jubilee, using white and one other colour, only. Size limited to 30 cm by 40 cm.

2. A Book Marker incorporating ACWW and 1980 in the design, in any medium such as fabric, leather, embroidery, etc. Size limited to 5-1/2 cm by 24 cm.

Written Work

3. A Children's Song as a unison song, accompanied or unaccompanied. Three verses only, with optional refrain — the words in English. The suitability of the words will be taken into account for a performance by a children's choir at the Triennial Conference. The composition may be the work of one or two people. Each song should be submitted with the full name and address of the composer and the name of the ACWW Member Society. Competitors are advised to keep a copy of their work, but every care will be taken of the songs received. Entries must be written clearly on manuscript paper, with the words of the first verse written under the vocal stave. Send three copies of each entry to facilitate judging (these may be photocopies).

Copyright: Composer of songs and their Societies must understand that first publication rights of the prize-winning songs belong to ACWW; this means that none of the songs may be made public in any form or language before the international awards are announced.

FWIC Pins

The National Office have a new supply of FWIC pins, but the price has gone up. They are now $12 each.

Basket of Goodies

Canterbury WI's Health and Welfare Conveners, Mrs. Helen Groom and Mrs. Murdena Coleman, had a Christmas project which was to give everyone in this community over 70 years of age a gaily trimmed basket of goodies. The baskets contained fruits, candy, soup, crackers, scones, juice, muffins, cup

cakes, and a small package of tissues. These two ladies trimmed the baskets themselves and packed and delivered them. Would you believe it — there were 20 baskets. The people who received them were most grateful to be recognized by this kindness, and the WI members feel that we are larger in thought and deed and truly grateful to have good members like these two women who really look to the needs and joy of others. Thank you Helen and Murdena.

Mrs. Lyla MacLeod,
Canterbury WI

Apricot Cake

3 eggs
2 cups sugar
1 cup vegetable oil
1/2 teaspoon salt
1 teaspoon baking soda
1 teaspoon nutmeg
1 teaspoon cinnamon
2 cups flour
nuts (optional)
1 jar apricot junior baby food

Mix all together by hand. (No electric mixer.) Pour into greased Bundt pan and bake in 350°F. oven for about 1 hour.

(This recipe comes from Mrs. Harriet Surtee, a Sutton WI member who is 87 years young and still entertains with home-cooked meals. Mrs. Ruby Knights, Provincial Home Economics Convener sent the recipe in.)

Dear WI Members:

We welcome you March, but you are such an unpredictable fellow. Sometimes you are sulky and brooding, and it is raw and cold with snow dusting over the old drifts; then again you are smiling and dancing, and there are bright skies and a strong south wind is blowing, but we love you anyway. We said goodbye to January and, as a friend noted, although we have had a few minor thaws, generally speaking, the village and the surrounding countryside have been beautiful and white and winterlike.

Howick's Publicity Convener Thyra Tolhurst reports that the branch honoured three members: (left to right) Eva Peddie, Sophia West, and Florence Crawford by presenting them with membership certificates and pins. "These members have contributed much to the group during their many years of membership — each in her own way and with her own talents, and all three are much loved and respected by their fellow members."

There were no WI reports in my mailbox this morning. I was hoping to hear from two or three more counties, but I know that a few branches do not hold meetings in January.

Some interesting roll calls were reported: **Stanbridge East,** what item in the news struck you the most during the past 12 months? From **Dunham, Melbourne Ridge,** and **Richmond Young Women,** new ideas for future programs. **Inverness,** hints to prevent the common cold. **Waterloo-Warden,** give one fact about ACWW. One member told how and when ACWW was formed, and another told how Pennies for Friendship originated. **Upper Lachute East End** and **Pioneer** asked their members to give suggestions to improve the meetings, and the ladies of **Ascot** gave ideas for quilting. **Jerusalem-Bethany** members were asked to pay a fine if they did not tell an Irish joke. **Cleveland's** was to give a report on a visit to a shut-in. **Frontier,** tell something interesting about a place you have visited and **Beebe's** was a presentation of gifts for the Dixville Home.

Mrs. Comba, **Matagami,** in Abitibi County, writes: "A donation of $50 was sent to the Butters Foundation in Austin, Quebec. A discussion was held on how to raise money for the coming year as we will not be getting the booth at the Lions' Fair this year. For the next meeting, each member will bring a guest, and a penny sale will be held." **Howick** is also planning a penny sale to raise money.

At the **Brompton Road** meeting, the Citizenship Convener Mrs. G. Hatch reported that $109.85 was made at the card party, which was held in aid of UNICEF. Mrs. K. Ross, Agriculture Convener, stated that Eastern Townships farmers had been well represented at the Royal in Toronto. This same branch is subscribing to the Federated News for all members, and also made a $17 donation to the Cancer Society. **Ascot** also supported the latter fund. Other interesting items are reported from Ascot: The Citizenship Convener Mrs. Bentzen conducted a quiz on Ascot Township, Ascot WI and the first members. Mrs. H. Robertson was given a gift in recognition of the many hours she spends helping others. The speaker, Mrs. Richard Brown, talked on quilting and showed many designs. A new member was welcomed.

The ladies of **Clarendon** branch decided to serve refreshments at

the annual meeting of the local agricultural society. A letter was read from the Regional Agricultural Office at Buckingham asking if the group would serve dinner to about 75 on Farm Day. Also there was a request to serve lunch at the annual Steam Show on August 24 and 25. It was decided to undertake both these projects. The members were also informed that bookmarks were to be made for the FWIC Convention.

Here are highlights from the December report of Richmond County which missed my last letter. Mrs. Davidson, President of **Richmond Hill,** presented a Life Membership pin to Mrs. Ernest Smith. A member of **Melbourne Ridge,** who lives at the Wales Home, sent in several knitted articles for the Dixville Home. The **Richmond Young Women's** group held a contest on Christmas wall or door hangings. Some were made of fir boughs, some fabric, and others crocheted wool. Both **Shipton** and **Spooner Pond** entertained the County President Mrs. Eastman. The members of **Denison Mills** made place mats out of Christmas cards for trays for the Wales Home, and **Cleveland** made another hooked rug for sale. From the January letter, **Richmond Young Women** gave six bed trays to the Wales Home which had been made by a member's husband.

Mrs. Thorburn from Argenteuil County writes: The members of the **Grenville** group are selling tickets on an afghan in order to buy dishes for their gatherings. They are also continuing to sponsor a child, and Mrs. Catherine Lowe was assigned to take care of this. It costs only $12 monthly. Please, other groups get busy and help the less fortunate neighbours." The guest speaker at this meeting was Mrs. Hazel Swail, who very ably showed interesting slides of her recent trip to Australia. Every one of the slides was marvelous but the colours and shapes of the coral, the intriguing tropical fish, and the beautiful flowering trees and shrubs are what appealed to people most. Some of the members wished they could go back to school again with Mrs. Swail as teacher. At **Frontier** two sets of FWIC slides were shown. They were of the Northwest Territories and the Adelaide Hoodless Homestead. The latter was most interesting, causing several members to express the desire to see the Homestead first hand, perhaps on a future chartered bus trip. The slides were shown by Jean Clark and Marjorie Mott read the commentaries. A paper on eye sickness and surgery was read by Mrs. Thompson at **Pioneer.**

Glen Nesbitt showed slides and gave a talk on the Indians around James Bay at **East Clifton.** Mrs. Lavina French read a poem on "Quilts". There was a "cookie exchange" with the Canadian-Vermont Homemaker's Club, also an exchange visit on December 13. **Bury** mourns the tragic death of one of their members, Mrs. Lillian Olson, in a fire that destroyed her home. A donation of $25 was given to the Pope Memorial Student Loan Fund in her memory. Cheques were also given to two persons who lost their possessions in the same fire.

The County Secretary read from the county minute book at **Granby Hill** concerning a meeting held on September 30, 1924 at the home of Mrs. John Coupland, Shefford Mountain, when Granby Hill and Shefford Mountain branches met to form a county. The late Mrs. Beach of Cowansville conducted the meeting and Mrs. Blanche Coupland (who celebrated her 97th birthday on December 18) was elected President, and Mrs. George Payne was elected Health and Welfare Convener. The two latter ladies are still members. An interesting item! The Education Convener reported that four prizes would be awarded in March to the three Grade VI's at Parkview Elementary School — one for highest in spelling, and one in each class for improvement. The Convener was substituting in one class and the teachers reported a marked improvement in the pupils' attitude and in the results. The Manager of the Social Action Group at the Royal Bank, Al Levin, spoke on consumerism and the child, urging teachers to make students more knowledgeable about money matters. At the **Waterloo-Warden** meeting, one member brought in 11 pairs of children's socks and six pairs of mittens for CanSave.

The Publicity Convener at **Stanbridge East** held a contest. She had "faces" in the news on blank paper and all members were asked to identify them. Mrs. Biggs said that she often heard, "I should know that person." She said that perhaps when we near the saturation point of "news", we turn off our minds and say enough! At **Fordyce** very lovely slides were shown of England by Mrs. Bowling who had toured the country, and **Belvidere** reported successful catering for the Ascot Lodge, Lennoxville Mason's St. John's Night Supper.

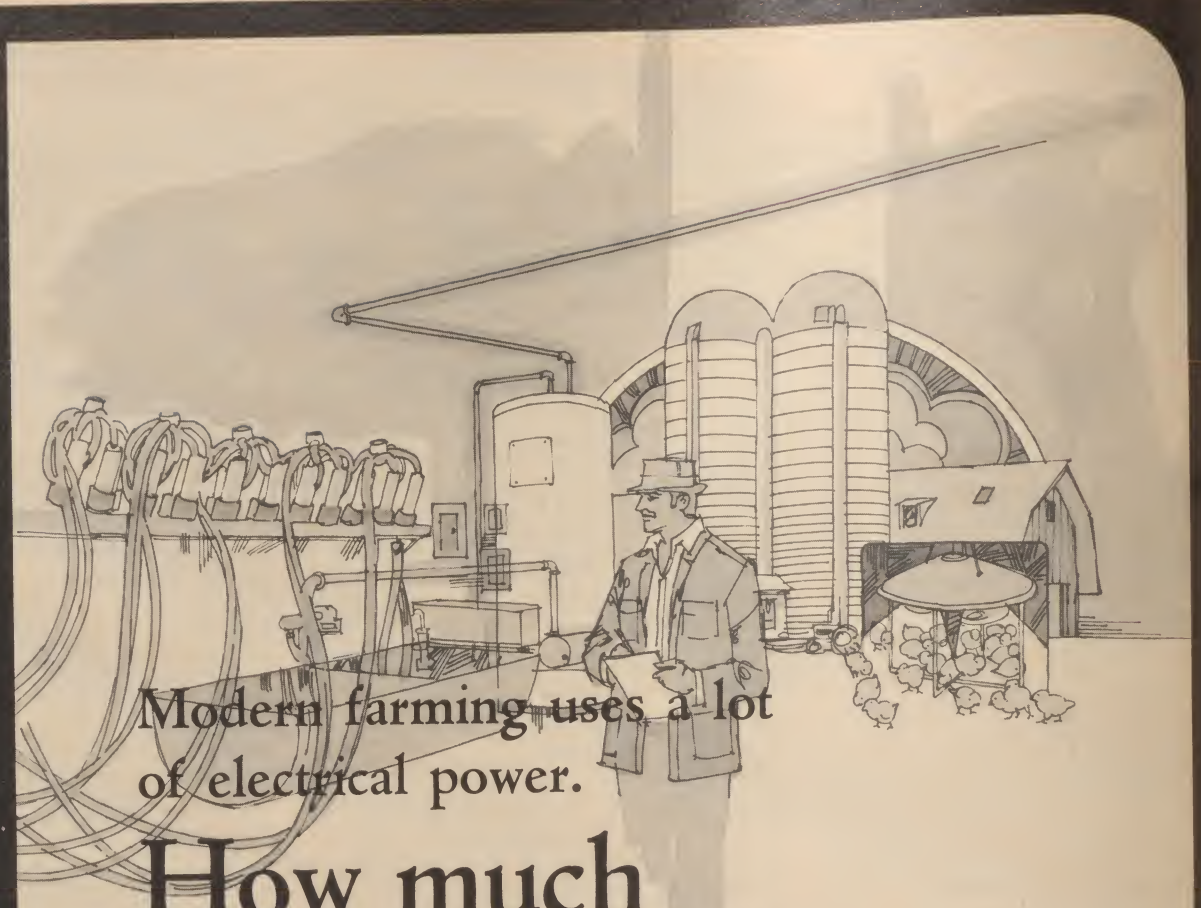
The Publicity Convener for Stanstead writes that all branches had a busy holiday season. **Hatley Centre** donated money to the Legion Auxiliary toward Christmas gifts for veterans. Their UNICEF collections were $207.85. January 2, this branch started off the New Year with a potluck luncheon. **Stanstead North** gave $50 to the Border Senior Citizens travel fund for a trip in May. The two latter branches and **Ayer's Cliff** and **Beebe** distributed cheer baskets.

The members of **Kinnear's Mills** exchanged magazines and they were many and varied. At the **Inverness** meeting, a letter was read from a half Indian, half English boy who attends Dr. Graham's Home in Bengal, India. He described in detail how tea is made.

Our organization is generally quite sensitive to the needs of others. At the holiday season this seems more evident for the donations have been generous and varied. **Richmond Hill** gave $100 to the Butters Home. Some other branches also supporting this cause are: **Shipton, Spooner Pond, Melbourne Ridge, Cleveland, Dunham, Brookbury,** and **Bury.** Local hospitals, senior citizens homes, Care and community buildings were also remembered.

The following quote gives us food for thought: **Kinnear's Mills,** Kindness isn't something you can give away — it always comes back.

Gladys C. Nugent,
QWI Publicity Convener.



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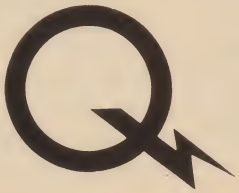

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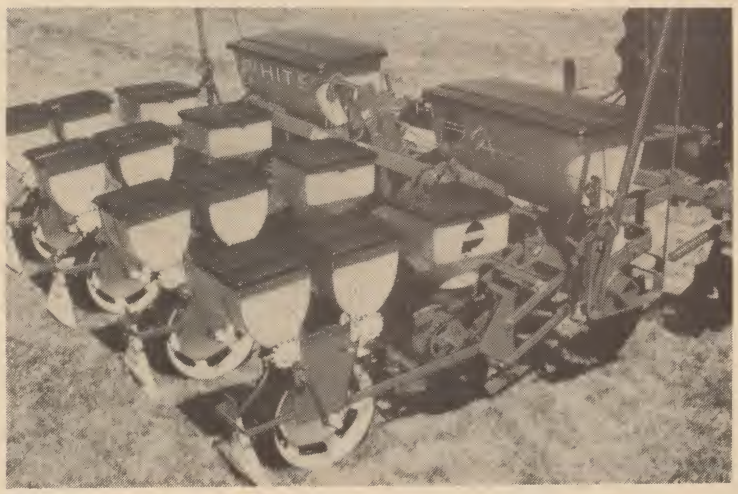

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